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AUTHOR Leite, Pedro T.
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ABSTRACT

As part of a longitudinal project to inventory computer equipment and identify current instructional use of microcomputers in Kansas community colleges, surveys were sent to the 19 community colleges in Kansas in spring 1994. The surveys solicited data on student enrollment, which subject areas utilized microcomputers, types of hardware available, operating systems used, microcomputer networking, and software sources. Questionnaires were received from 84% (n=16) of the colleges and findings were compared to an initial inventory conducted in spring 1992. Study results included the following: (1) 5 of the colleges had an overall enrollment of over 4,000 students, while 4 had an enrollment of 2,001 to 2,500; (2) all 16 respondents indicated that microcomputers were being used in computer literacy, word processing, spreadsheet, and database instruction, while accounting, computer science, and drafting were cited by 14 colleges; (3) from spring 1992 to spring 1994, the availability of microcomputers increased from 165 to 204 machines per college; (4) the use of powerful computers, such as the 486-based PC, also increased from 141 machines reported by 6 colleges in 1992 to 988 machines reported by 11 colleges in 1994; (5) while only one college reported the use of multimedia systems in 1992, 81% of the 1994 colleges did so; and (6) 10 of the 1994 colleges reported the use of commercial multimedia presentation packages, while 8 reported the use of multimedia presentations developed in-house by faculty and/or staff. (KP)

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ED 387 175

A LONGITUDINAL STUDY OF MICROCOMPUTER USAGE AT THE COMMUNITY COLLEGE LEVEL IN KANSAS

SPRING/94

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Pedro T. Leite, EdS
Division of Business and Technology
Butler County Community College
Andover, KS

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(24th, Wichita, KS, October 27-28, 1994)

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Introduction

This survey is part of a longitudinal study seeking to identify the current instructional use of microcomputers at the Community College level in the state of Kansas as well as to have an inventory of microcomputer available for instruction.

The first part of this study was conducted during the Spring of 1992 and its results can be found in the ERIC system under the number ED 355 977.

Sample

The survey instrument was sent to the nineteen community colleges in Kansas during the Spring of 1994, the surveyed colleges' directory is presented in Appendix A. Sixteen questionnaires were returned, a response rate of eighty-four percent.

It is necessary to note that three colleges did not indicate the quantity of microcomputers available. However, they indicated the type of microcomputers available for instruction. Thus, these three questionnaires were not included in the computation of the average quantity of microcomputers available for instruction, but were included in other computations of the study.

The survey instrument was designed to collect the following data:

- student enrollment,
- subject areas using microcomputers for instruction,
- type of hardware available for instruction,
- operating systems,

- microcomputer networking, and
- source of the software used for instruction.

Total Student Enrollment

The first question in the questionnaire was related to student enrollment. The scale varied from one thousand through more than four thousand students, with increments of five hundred students. The distribution is presented in Table 1.

Table 1. Student Enrollment (N=16)

ENROLLMENT	FREQUENCY
1,000 to 1,500	2
1,501 to 2,000	1
2,001 to 2,500	4
2,501 to 3,000	1
3,001 to 3,500	1
3,501 to 4,000	2
More than 4,000	5

Microcomputer Usage by Subject Areas

All sixteen respondents indicated that microcomputers are being used in computer literacy courses, word processing, spreadsheet, and database instruction. Accounting, Computer Science, and Drafting appeared in second place with fourteen responses.

It is interesting to note that non-traditional computer based courses such as Psychology and Veterinary Technology were reported by four and one colleges respectively. Table 2 presents the distribution of subject areas.

Table 2. Microcomputer Usage by Subject Areas (N=16)

SUBJECT AREA	FREQUENCY
Computer Literacy	16
Word Processing	16
Spreadsheet	16
Database	16
Accounting	14
Computer Science	14
Drafting	14
English	13
Nursing	12
Industrial Technology	11
Mathematics	11
Music	10
Physics	10
Reading	10
English-as-a-Second Language	5
Psychology	4
Foreign Languages	2
Veterinary Technology	1

Hardware Available for Instruction

A total of 2,652 microcomputers was reported to be available for instruction by thirteen colleges. The highest frequency of response was received by the 386-based microcomputer (twelve responses, 834 machines) followed by the 486-based microcomputer (eleven responses, 988 machines) and the Macintosh (eleven responses, 235 machines). The hardware distribution is presented in Table 3.

Table 3. Hardware Available for Instruction (N=13)

HARDWARE	QUANTITY	FREQUENCY
486-based	988	11
386-based	834	12
286-based	256	9
Macintosh	235	11
PC/XT	198	6
Multimedia Station	82	6
Laptops	59	5

Operating Systems

The question regarded to the type of operating system being used with the microcomputers revealed, without surprise, the use of MS/PC-DOS. All but one college reported the use of Microsoft Windows operating environment. Table 4 presents the operating systems available.

Table 4. Operating Systems Used for Instruction (N=16)

OPERATING SYSTEM	FREQUENCY
MS/PC-DOS	16
MS Windows	15
Macintosh	13
AppleDOS	4
OS/2	4
Unix	3

Microcomputer Networking

The responses indicated that fourteen colleges employ some form of microcomputer networking with a total of 1,224 connected microcomputers (forty-six percent of all microcomputers reported).

The environments used to network these microcomputers are: Novell (eleven responses), Appletalk (five responses), OS/2 (two responses), IBM PC Network (one response), and HP (one response).

Source of the Software Used for Instruction

Commercial software packages, or off-the-shelf software, were reported by all surveyed community colleges, followed by student editions, shareware, and software developed by the faculty. Table 5 presents the distribution by category.

Table 5. Software Used for Instruction (N=16)

SOURCE	FREQUENCY
Commercial Packages	16
Student Edition	13
Shareware	6
Developed by Faculty	5

Conclusions

The following conclusions were drawn based on the results of the present survey and on the results of the Spring 1992 survey (see ED 355 977).

1. The availability of microcomputers for instruction seems to be increasing at the community college level in Kansas.
    - 1994: 204 machines/college
    - 1992: 165 machines/college
2. Modern and powerful machines such as the 486-based PC were reported in greater number than previous research.
    - 1994: 988 machines reported by eleven colleges (N=13)
    - 1992: 141 machines reported by six colleges (N=9)
3. The use of multimedia systems to deliver instruction was reported by thirteen (81%) of the surveyed community colleges. In 1992 only one college reported the use of such technology.

4. Ten colleges (77%) reported the use of commercial multimedia presentation packages. Eight colleges (62%) reported the use of multimedia presentation developed in-house by faculty and/or staff.

5. In 1994 twenty-nine subject areas were identified by sixteen community colleges. This number is up from twenty-four subject areas identified by eighteen community colleges in 1992.

Appendix A

COMMUNITY COLLEGES SURVEYED

Allen County Community College
1801 N. Cottonwood
Iola, KS 66749-1698

Barton County Community College
Route 3, Box 136Z
Great Bend, KS 67530-9283

Butler County Community College
901 S. Haverhill Road
El Dorado, KS 67042-3280

Cloud County Community College
P.O. Box 1002
Concordia, KS 66901-1002

Coffeyville Community College
11th & Willow
Coffeyville, KS 67337

Colby Community College
1255 South Range
Colby, KS 67701

Cowley County Community College
25 South 2nd, P.O. Box 1147
Arkansas City, KS 67005-1147

Dodge City Community College
2501 North 14th
Dodge City, KS 67801-2399

Fort Scott Community College
2108 South Horton
Fort Scott, KS 66701

Garden City Community College
801 Campus Drive
Garden City, KS 67846

Highland Community College
P.O. Box 68
Highland, KS 66035

Hutchinson Community College
1300 North Plum
Hutchinson, KS 67501

Independence Community College
College Avenue & Brookside Drive
Independence, KS 67301-9998

Johnson County Community College
12345 College at Quivira Road
Overland Park, KS 66210-1299

Kansas City Kansas Community College
7250 State Avenue
Kansas City, KS 66112

Labette Community College
200 South 14th, Box 957
Parsons, KS 67357

Neosho County Community College
1000 South Allen
Chanute, KS 66720-2699

Pratt Community College
Highway 61
Pratt, KS 67124

Seward County Community College
Box 1137
Liberal, KS 67905-1137